

An Essay  
on the  
Nature and Treatment  
of  
That disease of the respiratory system  
Generally called  
Croup.

By William P. Williams  
of Maryland.

admitted March 20th 1822

By William B. Williams

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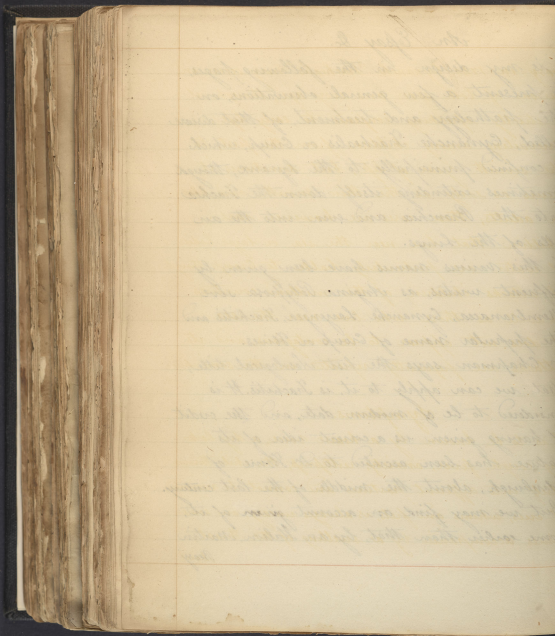
An Essay &c.

It is my design in the following pages, to present a few general observations, on the pathology and treatment, of that disease called, *Cynanche Trachealis* or Croup, which is confined principally to the Larynx, though sometimes extending itself down the Trachea into the Bronchia and even into the air cells of the Lungs.

To this various names have been given by different writers, as *Angina Polyposa* sive *Membranacea*, *Cynanche Laryngea*, *Trachitis* and the popular name of Croup or Hoars.

Dr. Chapman says the best Nosological title, that we can apply to it, is *Trachitis*. It is considered to be of modern date, and the credit of having given us a correct idea of its nature has been ascribed to Dr. Home of Edinburgh, about the middle of the last century.

But we may find an account given of it, some earlier than that, by an Italian, Martin  
Brong





Brassy in 1740. Cynanche Trachealis may occur in persons of both sexes and every age, though it is strictly speaking confined to early life, prevailing among children from the first, to the seventh year of life, but sometimes it occurs as early as the third month and also in adults; these cases are however rare.

Children that live near the sea or large bodies of water are particularly liable to Croup, though it attacks children of the midland countries as well as those who live near the sea.

It does not appear to be contagious, and its attacks are frequently repeated in the same child.

### Symptoms.

It is to be known by a hoarse voice, a dry barking cough, fever, anxiety, restlessness, the child throws itself into different postures and cannot be reconciled; it cries, whines and frets, is always uneasy; and sometimes accompanied by a swelling of the throat,  
about



about the place of the Larynx; and as the disease advances, there is flushed face and lividness of the lips attending it. It sometimes comes on with the ordinary symptoms of a common Catarrh, then sometime before the approach of Croup, the child is fretful, inactive and drowsy, the eyes are somewhat suffused and the complexion livid; there is some degree of cough, which increases until the disease is confirmed. The attack most frequently comes on in the night, sometimes soon after the child is put to bed, but more frequently about midnight.

### Causes of Trachitis.

It has been alleged to arise from contagion, but it is pretty well decided, that it is not contagious - Cullen is of the opinion, that it may affect the Larynx and Trachea, from Cynanche Tonsillaris and Maligna spreading into them. - But we have no  
reason



reason to believe, that it is produced by either of these causes. It seems to be produced by exposure to cold or humidity, and is therefore connected with changes in the weather; hence it prevails during the winter and spring, but most generally in the spring months of the year. - And the presence of worms has been known to produce Croup.

By some it is said to be Epidemic, and this appears to have been the case in the neighbourhood of Alexandria in Virginia in the year 1799, the period at which, our illustrious Washington, is said to have fallen a victim to it. And it likewise appears to have been the case in Philadelphia in the winter of 1809-10, when the disease was productive of considerable mortality. For it was said that the weather was regular and pleasant for the season; yet, for several weeks, Croup prevailed with the

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the character of an epidemic.

This appears to have been the case at Leith, when it prevailed, with great mortality, while it was hardly known at Edinburgh, which are only a few miles separate.

It is scarcely ever seen in Baltimore, whilst at Fells-point, which is only a small distance from the City, it prevails to a considerable extent every succeeding Spring.

By exorological writers this disease has been divided into spasmodic and inflammatory.

It is Cullen's opinion, that the disease consists in an inflammatory affection of the mucous membrane of the Larynx and Trachea producing an exudation analogous to that found on the surface of inflamed viscera, and partly in a fluid resembling pus.

But the opinion of our able and distinguished Professor of the theory and practice.



character of an epidemic.  
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practice of medicine in the University of Pennsylvania, differs from that of Cullen; which, I will now give; to me however it appears that all cases of Cynanche trachealis, which come on suddenly must partake of the spasmodic character.

And this is proved not only by the early symptoms of the disease, which correspond with this view of its pathology; but by dissections and there have been frequently made after sudden death, and they have not shown any of the phenomena of preexisting inflammation; here then death must have taken place from a spasmodic constriction of the Larynx.

But where the disease comes on slowly and is the effect of gradually extending inflammation then it is of course an inflammatory affection.

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Dr. Ferriar in his medical history says, there can be no doubt, that the genuine croup is a disease highly inflammatory. He mentions two cases where examinations post mortem was permitted; I found says he, the internal surface of the Trachea, near the Larynx affected with the most violent inflammation. The membrane so much talked of by the first writers on this disease, appeared in both of these dissections, to be nothing more than inflammatory exudation. But dissections in this City have shown quite the reverse of Dr. Ferriars; for they have not shown any appearance of inflammation.

But whether the case be spasmodic or inflammatory, we are in either case to adopt precisely the same treatment.

It is of great importance to form an accurate opinion, respecting the treatment  
of



of this disease, which is very short in its duration, and attended with extreme danger.

### Treatment.

That which I shall give, will be that which I have derived from the enlightened Professor of the practice in this University.

Called to a child attacked with Cynanche Trachealis, I would commence with the administration of Emetics; and the best of these, is a combination of Tartar Emetic, Specacuanha and Calomel, it is one of the most certain of all emetics, or Tartar Emetic alone, repeated at short intervals in large doses; at the same time, the child should be put in the warm bath for five, ten or fifteen minutes. The warm bath is a very useful remedy and has often effected a cure by itself; it also promotes the operation of the emetic; But if the emetic should  
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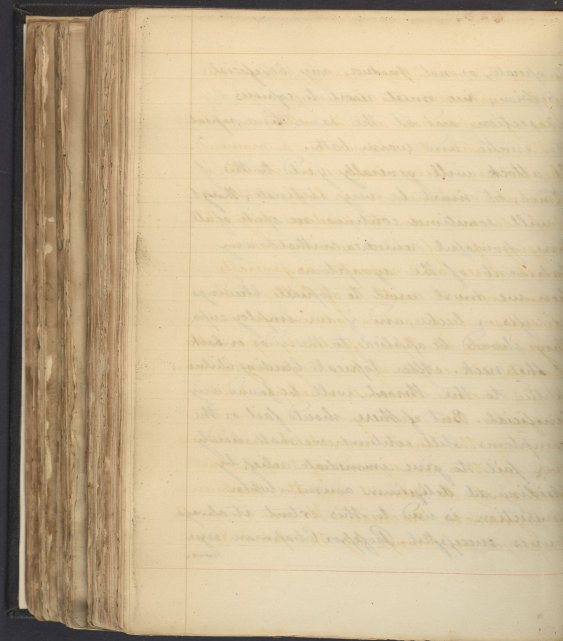
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not operate, or not produce any beneficial impression, we must resort to copious venisection and at the same time, repeat the emetic and warm bath.

The attack will generally yield to this, if it <sup>does</sup> not, it must be very obstinate, though it will sometimes continue in spite of all these powerful remedies, without any abatement of the symptoms.

Then we must resort to topical bleedings by cups or leeches, and if we employ cups they should be applied to the sides or back of the neck. After topical bleeding, blisters applied to the throat, will be found very beneficial. But if there should fail or the symptoms still continue, we shall hardly ever fail to give immediate relief, by bleeding ad deliquium animi. - When venisection is used to this extent it always proves successful. Professor Chapman says.  
never







never to his knowledge has it failed in one single instance. The hoarseness, cough, difficulty of respiration and the other symptoms of the complaint subside in a moment. The disease being broken, we should administer Calomel in as large doses as possible, in order to produce very active purging, for if it is administered in small doses and repeated as generally recommended, it will be of little or no advantage; but when administered in large doses, it then effectually opens the bowels, and carries off the lingering remains of the disease, prevents a relapse and promotes the recovery.

Some of the most respectable practitioners, both of this country and of Europe, trust exclusively to Calomel in the treatment of Cynanche Trachealis. It was originally employed in Goup, by the late Dr. Kuhn

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the disease being taken on board  
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injury, for if it is administered  
it will do so, and as the same  
is recommended to be of little  
value, but in the administration  
of the same, it is difficult to  
reach and cause of the same  
the disease, however a slight  
injury to the recovery.  
of the most respectable  
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to be taken by the patient.

of this City, who prescribed it in the year 1770. The Scotch physicians are devoted to the remedy and consider it, as almost infallible, or at least it seems to be the opinion of some of their most distinguished writers.

Dr. Hamilton says, that in every case where he employed it previous to the occurrence of the lividness of the lips, and other mortal symptoms, it has completely succeeded, both in curing the disease and in preventing any shock to the child's constitution.

His manner of exhibiting the Calomel, would appear daring were we not acquainted with the insensibility of the system in this disease. To a child of two years old, he has given upwards of one hundred grains in twenty-four hours.

The practitioners of Edinburgh trusted almost entirely to Calomel in the Treatment of this disease, they give from ℥i to ℥ii. to  
a child



a child two or three years old, in the course of twenty-four hours.

### Treatment in the latter stage.

This must differ from that in the commencement; where hoarseness, cough, difficult respiration and tightness of the chest continues, we must resort to expectorants; and among the best of these, is *Polygala Senega*, it is here that it displays its best powers. Dr. Archer of Maryland speaks of *Polygala Senega* with unlimited praise, he used it in every stage of croup, but the correct opinion seems now to be, that it is only adapted to the latter stages of the disease. Dr. Archer also used corrosive sublimate in the following manner; dissolved two grains in ~~one~~ ounce of water, dose 1, 2 or 3 grs. every quarter, half, or one hour, until it proves emetic.



Dr. Coxe's hive syrup is highly beneficial in this disease; it is made as follows -

R<sup>x</sup>. Seneca snake root, bruised,

Squills, dried and bruised, of each half pound,  
water eight pounds.

Boil together over a slow fire, till the water is half consumed; strain off the liquor, then add of strained honey, four pounds.

Boil the honey and strain the liquor to six pounds, or the consistence of a syrup, and add to every pound of this syrup grs. xvi of Tartar Emetic, that is one grain to the ounce. Dose varies from ten drops, to one or more tea-spoons full, every quarter, half, or one hour according to the age of the patient, or the violence of the disease. It operates by purging, vomiting, and sweat.

Dr. Coxe mentioned in his lectures this winter, that a small quantity of Thebaic Tincture or Purgative Elixir given to a child, when  
about



Coast line graph is highly important in  
this case, it is made as follows -

Lower back most painful  
Pain will dull and dull of neck stiffening  
back with pain.

It is often seen a pain in the side  
and sometimes, others of the lower back  
of a chronic nature, and is often

seen the lower and often the lower  
of the lower or the curvature of the spine  
add to every form of the spine.

of the lower back, that is one pain  
the lower back, and is often seen  
one or more the lower back, every part

of the lower back according to the age of  
the patient, or the nature of the disease.

of the lower back, according to the age of  
the patient, or the nature of the disease.  
of a small quantity of the lower back  
of the lower back, and is often seen



about going to sleep is found extremely useful  
in Croup.

The Oxy-mel of squills has also been found  
useful; made as follows,

R<sup>s</sup>. Clarified honey three pounds  
Vinegar of squills, two pints,

Boil them in a glass vessel, with a slow  
fire, to the thickness of syrup. It is given  
in doses of two or three drachms along with  
some aromatic water, as that of Cinnamon.

The juice of Onions or Garlic has been recom-  
mended in the latter stages of Trachitis, and  
we shall often succeed in puking a child  
with this when all our other remedies fail.

Cynanche Trachealis in its latter stage, is  
restricted to the Trachea and is a spasmodic  
affection of the muscles or an inflammation  
of the mucous membrane of the Trachea; but  
if it is allowed to continue for eight or ten  
hours, the inflammation extends itself into  
the



the Bronchia and Lungs, a great quantity of  
phlegm is accumulated and the pulmonary  
vessels are loaded and we have Peripneumonia  
Notha. The symptoms now are very different;  
at the commencement of the attack, the symp-  
toms, are hoarse voice, a dry barking cough, fever,  
anxiety, restlessness, the child throws itself into  
different postures and cannot be reconciled,  
it cries, whines and frets, is always uneasy.  
The disease continuing, the circulation becomes  
interrupted in the lungs, they perform their  
office imperfectly. - The cheeks are flushed, the  
eyes are prominent, the pupils dilated and  
the countenance wild and haggard; the  
respiration very laborious, with a feeble pulse,  
or the child sinking under the disease, the  
respiration will be observed to be rather  
more easy, and in this situation the  
pulse will be found weak and feeble. -  
The disease is now a Peripneumonia and must  
be



be treated accordingly. First equalise the circulation, by putting the patient in the warm bath and administering an Emetic of Sulphate of Zinc or Tartarised Antimony, and when the pulse will admit, a little blood should be drawn, but this should be done cautiously, watching the effects produced and if they are beneficial, we may go on bleeding until, we subdue the disease; but when general bleedings are inadmissible, cups and leeches must be applied, there will be found very useful. As assisting with these remedies a blister over the whole chest, or if the case is very urgent we may apply pieces of linen dipped in boiling water or in a decoction of Turpentine and Cantharides, with the view of producing vesication.

The subsequent treatment consists in the plentiful use of expectorants, the antimor-  
wine



wine, the oxymel or the vinegar of squills.

The vinegar of squills is made as follows;

R<sup>s</sup>, Squills recently dried. ℔.i. Vinegar ℥ss. vi.

Proof Spirit. ℥ss. Macerate the squills with the vinegar, with a gentle heat for twenty-four hours, express the liquor, and set it aside until the feces subside, then add the spirit; dose from a drachm to a half ounce, with some aromatic water. The decoction of Snake root will answer very well at this period, and much advantage will be derived from the liberal use of Calomel, which is an excellent expectorant.

There has been a great <sup>deal</sup> said about a membrane lining the internal surface of the Trachea; which is sometimes the cause of difficult respiration attending this complaint; that it does now and then exist is not denied, but it is said to be  
of







of rare occurrence; however it exists oftener than is generally imagined, and the reason why it is not found oftener in examinations post mortem, is that, it is frequently cough'd up; for which I cite the high authority of Dr. Physick.

Under the impression that this membrane obstructed respiration the operation of Tracheotomy has been proposed, whether this be a good practice or not, I cannot say. To the remedies already enumerated, might be added more, if it were requisite; I have given those which are most efficacious, and with which I am pleas'd to say, that we can attack the disease, with confidence of success, when judiciously administered. -

